THE JOURNAL OF PHILOSOPHY

VOL. LIV, NO. 1: JANUARY 3, 1957

CONTENTS

Dewey's Treatment of Causality: BELLA K. MILMED 5

Comments and Criticism

The Liberal Arts Function of Philosophy: C. W. BERENDA 19

Book Review

C. D. BROAD, *Religion, Philosophy and Psychical Research; Selected Essays:* KINGSLEY PRICE 21

PUBLISHED FORTNIGHTLY
BY THE
JOURNAL OF PHILOSOPHY, INC.

THE JOURNAL OF PHILOSOPHY

FOUNDED BY FREDERICK J. E. WOODBRIDGE AND WENDELL T. BUSH

EDITORS: Herbert W. Schneider, John H. Randall, Jr.

CONSULTING EDITORS: Ernest Nagel, Alexandre Koyré.

MANAGING EDITOR: Emerson Buchanan.

Communications to the editors should be addressed to the Managing Editor, 713 Philosophy Hall, Columbia University, New York 27, N. Y. Subscriptions and advertisements should be sent to THE JOURNAL OF PHILOSOPHY, 713 Philosophy Hall, Columbia University, New York 27, N. Y. The annual subscription price (twenty-six numbers) is $5.25. The price of single numbers is 35 cents, double numbers, 60 cents.

THE JOURNAL OF PHILOSOPHY is owned by the Journal of Philosophy, Inc., and published fortnightly at Prince and Lemon Sts., Lancaster, Pa. Editorial Office: 713 Philosophy Hall, Columbia University, New York 27, N. Y. President, Albert G. Redpath; Vice President, John H. Randall, Jr.; Treasurer, Frederick A. Dewey; Secretary, Ernest Nagel.

Entered as second class matter, March 18, 1921, at the Post Office at Lancaster, Pa., under Act of Congress of March 3, 1879.

Acceptance for mailing at special rate of postage provided for in paragraph (d-2), section 34.40, P. L. & R. of 1948, authorised March 11, 1952.

PUBLICATIONS

FOR SALE AT

THE JOURNAL OF PHILOSOPHY INC.

515 W. 116th STREET NEW YORK 27, N. Y.

A Bibliography of Philosophy, 1933, 1934, 1935, 1936. 4 issues, 56 pages each. (Double numbers of THE JOURNAL OF PHILOSOPHY.) $1.00 each issue, $2.75 for the four issues.

Cosmogony. By Christian Ehrenfels. Translated from the German by Mildren Focht. xii, 223 pp. $2.50 (cloth cover).

Philosophy and Method. By Richard McKeon. Reprinted from THE JOURNAL OF PHILOSOPHY, Vol. XLVIII, No. 22, October 25, 1951, pp. 653–682. 35 cents.

Negation. By A. J. Ayer. Offprint, from THE JOURNAL OF PHILOSOPHY, Vol. XLIX, No. 26, December 18, 1952, pp. 797–815. 15 cents.

THE JOURNAL OF PHILOSOPHY

THE JOURNAL
OF
PHILOSOPHY

FOUNDED BY
FREDERICK J. E. WOODBRIDGE
AND
WENDELL T. BUSH

EDITED BY
HERBERT W. SCHNEIDER
AND
JOHN H. RANDALL, JR.

VOLUME LIV

JANUARY—DECEMBER, 1957

1957

LANCASTER PRESS, INC., LANCASTER, PA.

VOLUME LIV, No. 1 JANUARY 3, 1957

THE JOURNAL OF PHILOSOPHY

DEWEY'S TREATMENT OF CAUSALITY

THE chief problem in regard to causality, if not its solution, was firmly established by Hume—the fact that the notion of causal connection seems to involve some sort of "necessity," while empirically we can observe nothing but a succession of events in those cases where the concept of causality is applied. Dewey formulates this same problem by pointing out that the concept of a necessary existential sequence is self-contradictory, because only universal (or non-existential) propositions are necessary.[1]

Unlike Hume, however, but like Hume's successor in this matter, Kant, Dewey is unwilling to drop the concept of an element of necessity having some relation to causal sequences, because of the fact that science itself recognizes—or is even based upon—something of the sort. Science, Dewey asserts, makes use both of necessary propositions, which are abstract, and of existential propositions, which are individual. It uses them, moreover, in close interrelation; for mathematical equations, which "purport to state necessary relations" and use terms whose meanings are determined by definition, are employed in physical inquiry, which yields information about spatio-temporal events.[2] How is this possible? How can we speak of one event as the cause of another, or indeed, in broader terms, of one event as related by a general "law" to another, without the self-contradictory concept of a sequence both existential and necessary?

Before proceeding to Dewey's answer, we may note that this problem may be, and has been, approached in two different ways. In one form, the difficulties of causality are those of induction, focusing on the question of how empirical sequences of events, however frequently observed, can validate or even give rise to the concept of necessity, which, moreover, is unobservable. This, of course, is Hume's approach. The reverse approach identifies the difficulties of causality with those of the applicability of logic, revolving around the question of how deductive inference can

[1] John Dewey, *Logic: the Theory of Inquiry* (New York, Henry Holt and Company, 1938), pp. 442–443.

[2] *Ibid.*, pp. 443–444.

produce existential and empirically verifiable results. This, obscured by involvement with obsolete scientific and mathematical concepts, is the approach of Kant, whose unfortunate term "synthetic *a priori*" derives from the fact that in his day mathematics was regarded as synthetic and science laid claim to universality. In this context it is evident that Kant's pervasive question, "How is synthetic *a priori* knowledge possible?," actually inquires about and attempts to validate not an alleged existential logic, but the existential application of logic, most striking in mathematical physics.

Dewey's angle of approach to the question of causality, then, perhaps surprisingly at first glance, is that of Kant rather than that of Hume. His emphasis on the essential role of experiment in science distinguishes him from both; but experiments, he recognizes, cannot be performed at random but rather "need direction by conceptions." They are conducted to test hypotheses, without which we should not know what experiments to conduct; and moreover, they can fulfill their function as tests only if our hypotheses are such that the empirical results to be expected of experiments can be logically inferred.[3] The role of deductive inference, therefore, becomes inescapable. Dewey fully recognizes this role whenever he gets down to specific consideration of the point at which it occurs; for after elaborately identifying "logic" with the process of inquiry as a whole, thus making it existential and experimental, he nevertheless discriminates within this process a special factor called "reasoning" or "discourse,"[4] which is abstract, analytic, deductive, and altogether to be identified with "logic" in the formal sense. And the existential applicability of logic in this narrower sense is not explained by the use of the same term, "logic," as a name for existential inquiry in its most inclusive sense. That Dewey himself does not regard the problem as so explained, even after he appears painstakingly to pave the way for such an assumption, is a tribute to his discrimination and honest confrontation of difficulties, though startling in the context of his preliminary approach.

Fundamentally, Dewey's answer to the problem of causality, like his question about it, is that of Kant, although, as we shall see, he goes out of his way to deny the apparent resemblance. Causality, he says, is "a *logical* category," not a feature of the existent structure of events. We "take" one event as cause and another as effect; but if we did not do so, no event would inherently be a cause more than an effect. Existentially, every event has an indefinite number of antecedents and consequents; but these do not

[3] *Ibid.*, pp. 432–433.

[4] *Ibid.*, pp. 111–112.

constitute causes and effects.[5] In other words, causality is a category of *explanation,* by which we can reason about the world and thereby make it understandable to ourselves; it is not a feature of things independently of human knowledge (whether that knowledge is conceived in terms of "inquiry" or "mind" or any other terms).

In order to interpret causality logically rather than ontologically, Dewey finds it necessary to separate the logical relations formulated by scientific laws from the existential content which they presumably relate. That they *are* logical relations is demonstrated by the fact that scientific laws can be stated mathematically; but the distinction between them and their existential content, as set forth by Dewey, often appears extremely elusive; yet it is a distinction which clearly (once Dewey brings it to our attention) needs to be made. Generalizations, says Dewey, whether inductive or of the universal (if-then) variety, have no factual subject matter. Inductive generalizations are about a "set of interactions" among the traits which determine kinds; they are not about the kinds themselves. Universal, or hypothetical, generalizations are about relations of abstract "characters" which are part of a system, making deduction possible.[6] It is events, however, that possess the "traits" and that may (or may not) fit into the systematic definitions (in terms of "characters") which universal propositions relate.

The status of causal laws as explanations of events (i.e., as enabling us to regard events in a rationally coherent fashion and consequently to make inferences about them) is evident from Dewey's distinction between a law and a formulation of an expectation. The latter, he points out, merely leads to the further questions of how and why the expected event may be expected to occur; to obtain a genuine scientific law, we must discover *reasons* for the expectation.[7] Similarly, unless we "*prepare* existential material so that it has convincing weight with respect to an inferred generalization" (or, in other words, unless our observations are so directed that they verify a hypothesis—i.e., show our observed cases to be instances of a general law by which they are explained), "no number of cases, no matter how extensive, will ground an inference, or occasion anything other than a more or less happy guess."[8]

So much for the status of causality as a "logical category"—a status and indeed a phrase whose Kantian origin is unmistakable. What, then, does Dewey mean by his denial that "logical category" in this connection is to be interpreted "in an *a priori* or Kantian

[5] *Ibid.*, pp. 458–459.
[6] *Ibid.*, p. 444.
[7] *Ibid.*, p. 452.
[8] *Ibid.*, p. 432.

sense"?[9] The element of "necessity" in causal relations is not denied by Dewey, but rather shown to be, as all "necessity" in knowledge must be, one of abstract logical implication (i.e., "*a priori*"). This does not mean, of course, that the *a priori* implication is a feature either of the cause or of the effect; nor that the occurrence of any event can be inferred either from the rules of logic or from abstract scientific laws, without additional premises which are empirical; nor that any scientific law or hypothesis is itself part of the rules of logic or inferrible from them. (Nor does Kant, who refuted the ontological argument for the existence of God on the basis of the abstract and analytic character of logic, assert any of these things.) The hypotheses, on the contrary, are *constructed* so as to make deductive (i.e., *a priori*) inference possible ("by the mind," as Kant would say, or "in inquiry," as Dewey would say) *about* events which are actually observed—i.e., the inference that they must be followed or accompanied by certain other observable events. In this way we not only predict events, but also, as Dewey points out, "order" events in a coherent system, give "reasons" for them—in other words, explain or *understand* them. Indeed, this is what it *means* to understand events. And since a physical object is itself an ordered system of this same type, " a set of qualities treated as *potentialities* for specified existential consequences,"[10] construction of a relevant hypothesis enabling us to order such qualities and predict such consequences is what we mean by knowing a physical object. (If this were not possible, "Objects observed and dealt with would be a shifting panorama of sudden disconnected appearances and disappearances."[11])

If this is not what Kant means by calling such conceptual but existentially relevant constructions "transcendental," he is even less comprehensible than he is often reputed to be. Accordingly, it is also just what Kant means when he mistakenly uses the term "synthetic *a priori*"—that causality is not itself a rule of logic, but a hypothetical relation (since he derives this category, as is too rarely observed, from the "hypothetical" form of judgment) which enables us to make inferences about—or *apply* logic to—empirical events. If Kant had not believed that the capacity for mathematical formulation was a mark of the "synthetic," he might have spared himself a great deal of unnecessary complication of this fundamental scheme.

Dewey's dissent, then, is neither from the *a priori* feature introduced into causality by Kant, nor, if Kant is reinterpreted in

[9] *Ibid.*, p. 459.
[10] *Ibid.*, p. 129.
[11] *Ibid.*, p. 123.

terms of later mathematics, from the so-called synthetic *a priori*. He does, undoubtedly, mean to dissent at least from the fixity of Kant's system, contrasting with "the *a priori* or Kantian sense" of "logical category" his own "sense of accrual within inquiry."[12] Kant's rigid views of the structure both of the human mind and of science unquestionably need some sort of loosening up, and reference to the effect upon them of the exigencies of existential inquiry is one way of doing it. (The effect of such modification upon the *structure* of both, together with the fact that structural as well as procedural analysis is still important in this connection, is shown by Lewis in *Mind and the World-Order*.) Nevertheless, Dewey's extraction and abstraction from "inquiry" of a pattern common to all inquiry, as well as the public nature of inquiry (which Dewey would surely be the last to challenge), indicate that all human minds—or, if this would sound like "hypostasis" to Dewey, the mental processes of all human beings—have *something* in common. That logic has something to do with possible ways of *human* thinking, moreover, and consequently involves, if it is regarded as normative, some reference to a more or less standard human mind, is implied in Dewey's approach to a greater extent than in anyone else's since Kant. This is a difficult matter for Kant as well as for Dewey, and both exhibit inconsistencies in dealing with it. The only genuine alternatives to such a view, however, reduce ultimately to the types which Dewey calls "traditional relationalism and empiricism," which are still more unsatisfactory. Those theories which regard the rules of logic as formulating the nature of "any conceivable world," although promulgated with the intention of dissociating logic from "thought," nevertheless can mean by "conceivable" nothing other than "conceivable to human minds," and ultimately, "conceivable to *the* (standard) human mind," however difficult it may be to identify or formulate or account for such a standard mind.

The question of Kant's "universally valid" scientific structure, on the other hand, is similar to that of his "synthetic *a priori*" in reducing largely to a matter of interpretation. Since the Newtonian science which was current in Kant's time and served as his model did in fact claim absolute validity, applicability to everything that might occur, Kant felt that he had to account for such a complete and exclusive system. Naturally, his belief in such a system is apparent at many points. It is all the more remarkable, therefore, that he was able to detach the logical foundations of science from such ontological claims; so that while he believed, and makes clear that he believed, that the entire empirical world was

[12] *Ibid.*, p. 459, note.

theoretically capable of interpretation in terms of one set of interrelated laws, nevertheless what he actually *accounts for* is a unity of a much more abstract type—a unity of the *kind* of concepts (e.g., causality) by which laws are constituted. What else, then, is Dewey's definition of causation as "an abstract concept of the indefinitely numerous existential sequences that are established in scientific inquiry"?[13]

The analogy is obvious between Kant's view of his categories (and of scientific laws formulated in terms of them) as "regulative" and Dewey's view of universal propositions as guides to the operations of inquiry. Perhaps Dewey would not explicitly accept Kant's further concept of *one* "regulative" principle—i.e., complete unification as an ideal aim, regulating the other unifying or ordering concepts in turn. Yet we must consider in this connection his insistence that inquiry into an indefinite sequence of causes back into the past or effects on into the future would be pointless, that it is the function of science rather to find a reason *why* a particular event is followed by another and so to bring both into an ordered system.[14] Thus, the succession of day and night is not itself the content of a causal law, but astronomy provides a law *for* that succession—i.e., one in terms of which their interrelation may be interpreted and accounted for and *therefore* predicted.[15] Surely this is a clear statement of the fact that science must proceed in the *direction* of unification; unification, moreover, in a logical sense, which means increasing comprehensiveness (or generality) and not merely inclusion of more events in an increasing period of time. Actually, this is equivalent to an infinitely converging unification of experience in terms of hypotheses; and aside from Kant's gratuitous assumption that all valid scientific laws (though not, we must remember, all existential occurrences) are capable of being made to converge in this way (though not to arrive at the implied limit in any case), this is all that is implied in Kant's grandiloquently titled "ideal of pure reason."

Of course Dewey also means by the "accrual in inquiry" of his "logical category" of causality that it is invoked, and indeed the goal of unification of separate events is set up, only "when and because determinate problems about such subject-matter are present."[16] But as a bare minimum, the "problem" of sorting out and relating those experiences that constitute physical objects, a process which Dewey himself analyzes in other connections, is a problem that is ubiquitous in cognitive experience. The concept of a physical object, moreover, as already indicated, is regarded by Dewey

[13] *Ibid.*, p. 458.
[14] *Ibid.*, pp. 452–453.
[15] *Ibid.*, pp. 455–456.
[16] *Ibid.*, p. 459.

as a unifying hypothesis, which he explains in terms quite similar to those in which he explains the nature of scientific laws and hypotheses.[17] Consequently, on this rudimentary level, at least, *every* "situation" may be regarded as a "problematic situation" requiring the "accrual in inquiry" of explanatory hypotheses in the direction of unification.

As a "logical category," then, we may regard causality in Dewey's view as essentially similar to causality in Kant's view. This is not to deny, however, that Dewey's view contains a number of very distinctive features, extending beyond his translation of the Kantian view (as in some instances already noted in the course of discussion) into the language of his own theory of inquiry. To these distinctive features we must now turn.

Most original of Dewey's innovations is his attempt not merely to explain or supplement but to eliminate from the picture the "recurring sequence" which has been universally regarded since Hume as constituting the empirical element in causality. The so-called recurring sequence, in Dewey's view, first, is not a sequence, and second, does not recur. It is not a sequence because, when explained in causal terms, it is transformed into a "*single continuous* event," into which the explanation resolves "events that are qualitatively unlike." By relating such events in terms of their "interactions," we achieve "elimination of gaps" between them and create a "temporal historical continuum."[18] Such a concept may be of value in reminding us that boundaries between events, as indeed between objects, are at least conceptual and in a sense conventional. In respect to causality, however, this concept of continuity seems relevant only as another name for logical coherence. It is logical "gaps," not temporal ones, that are closed by analysis of events in non-qualitative, non-temporal terms; and what difference it makes in regard to the "temporal historical continuum" whether we speak of one event or two is not at all clear.

Dewey's more significant challenge to the concept of recurrent sequences, one that, if successful, would change the entire empirical foundation on which the problem of causality has been set up since Hume, is his objection to the whole notion of recurrence—an objection first raised in connection with the concept of "kinds." That discussion is relevant here, because Dewey attempts to get around the notion of a recurrent sequence in causality by substituting that of kinds; in finding the cause of an event, we are really finding out what *kind* of event it is.[19]

No experience, Dewey asserts, and therefore no experienced

[17] *Ibid.*, pp. 125–131.
[18] *Ibid.*, p. 458.
[19] *Ibid.*, pp. 447–448.

quality, can recur, since each is unique, being a temporal event. Consequently, the identification of a persisting physical object cannot be made in terms of the recurrence of identical experiences or qualities. One might suppose that the occurrence of *similar* qualities should be substituted. Here, however, the problem becomes acute; for Dewey points out that a similar quality means a quality of the *same kind*, so that we are confronted with the problem of whether a *kind* can identically recur. If we conceive a kind, like an experience, in qualitative, existential terms, the answer must be that it cannot. A kind, however, the argument continues, is constituted not by a combination of qualities but by a set of "conjoined traits" of which different qualities can equally act as "signs" or evidence. These "conjoined traits" can be "the same" (i.e., recur or constitute a kind) because they are *potential;* each is the effect of a "way of operating," not of an actual operation; and *ways* of operating are not "singulars" but "constants." [20]

It is precisely the same problem that Dewey raises in connection with causality. The empirical referent of a causal law, he says, cannot be a repeated sequence of events, because every event, and so every sequence of events, is unique. It is the *kind* of event that recurs, because the recurrence of a kind may be interpreted non-existentially and therefore non-temporally, not as repetition but as "constancy of evidential function" [21]; for a kind is constituted by a logical (not existential or temporal) relation of traits.[22] This, of course, is part of what Dewey means by calling causality a "logical category." When we regard an event as subject to a specified causal law, we regard it as one of a specified *kind;* and a kind, like the law which defines it, can remain the same in many instances without temporal "recurrence," because, being an abstraction, it does not actually "occur" in the first place. It is the *event* that occurs, and that exemplifies, or becomes an empirical referent for (in Dewey's language, a "sign" of), the kind.

The inductive procedure, accordingly, by which scientific generalizations are established, is not, for Dewey, a mere repetitious observation of the same thing happening in the same way *ad infinitum*, but rather a complex network of experiments and inferences designed to show that something *is* "the same"—not identical, but included in a specified kind or relevant to a specified "if-then" hypothesis.[23] It is a "determination of what actually takes place in any *one* case," [24] whereby "a given case is determined to be

[20] *Ibid.*, pp. 248–251.
[21] *Ibid.*, p. 454.
[22] *Ibid.*, p. 17.
[23] *Ibid.*, pp. 426–427.
[24] *Ibid.*, p. 437.

representative."[25] In Dewey's detailed and complex examples, no mention is made of any repetitions, but rather of varied experiments so set up that generalizations regarded as obtaining in other fields of science are brought to bear upon the material under consideration, either positively, to show that the material *can* be included in such a generalization (or kind), or negatively, to show that it cannot. Thus we have one "representative" case rather than many similar cases.

This is clearly an impressive attempt to get around the traditional perplexities of induction. Does it succeed? Certainly it is both legitimate and helpful to distinguish the repeated applicability of a law from the repeated occurrence of an identical event; indeed, it is a form of the distinction between logic and existence. But if the use of this distinction does away with the need for existential *recurrence*, it still does not do away with the need for *similarity* in some existential sense, whatever the difficulties of such a concept, nor with the importance of the "retrospective" element in knowledge which this implies. A "relation of traits" of which we have only one example cannot be noticed sufficiently to be constituted a "kind," however abstract; we should not know what traits or what relations to abstract, or rather there would be no reason to abstract anything. The same is even more clearly true if we interpret this process of abstraction, with Dewey, in terms of "constancy of evidential function," which, if it may indeed be found in events which are qualitatively different, must surely imply *some* kind of resemblance among events, some existential factor which leads us to *recognize* the event as exercising an "evidential function" with which we are already acquainted. Nor is this need obviated when the evidential relation is the "prospective" one of means to consequence, which Dewey identifies as the existential referent of the causal relation.[26] Dewey himself finds it necessary to mention that there is a certain amount of "retrospective reference" involved in this relation, not only in common sense but in science, because "conditions can be established or adjudged in their capacity as means only on the basis of what has taken place in the past."[27]

Here we are back to induction in its traditional form. Dewey's analyses of scientific inductive procedure may present us with their intricate networks of experiments, no two of which are alike; yet it becomes obvious that each in turn has behind it a long series of previous "similar" cases which are here presupposed. Indeed, the very identification of the material to be investigated—e.g., the way

[25] *Ibid.*, p. 436.
[26] *Ibid.*, pp. 460–462.
[27] *Ibid.*, p. 461.

in which dew forms, in Dewey's example—depends upon the preliminary fact that "Certain traits sufficiently characteristic to mark off the phenomena as a kind, that is different from other kinds, are easily and recurrently observable." [28] (Not merely logically constant, but recurrently *observable*—i.e., recurring in some existential sense.) If the problem for science is "not to discover identifying traits," [29] that is true only because such traits are in this instance accessible to common sense without the aid of science. If the scientific problem is rather to "determine the including *kind* within which the kind *dew* is included," [30] that including kind (as well as the kind *dew*) must either have been established previously by the occurrence of many phenomena which are similar in some respect, which is the case in Dewey's example, or else it must now be established by such means, before the problem can be solved.

In any one causal investigation, then, it may indeed be "a singular event" that we set out to explain and that we employ laws to explain [31]; but a law applicable to this event alone would be no explanation and no law, if indeed we could even invent such a concept. Moreover, each of the experiments which apply laws to the singular case may be self-sufficient *for the inquiry in hand* without repetition; but the results of each have a *probable* validity which Dewey himself, when he proceeds to the analysis of probability,[32] interprets in terms of *frequency* (i.e., existential recurrence) and of "retrospective" knowledge—"*knowledge* of what has actually taken place with respect to frequency-distribution." [33] The success of Dewey's attempt at elimination of the recurrent existential sequence from the analysis of induction and of causality, then, is highly doubtful, at least if we consider such recurrence in terms of similarity rather than identity.

It is nevertheless undeniable that Dewey's analysis makes important and much needed *additions* to those far too simple accounts of scientific procedure that are formulated in terms of probability calculations (i.e., frequency) alone. The nature of these additions must be carefully noted; for the emphasis on controlled and directed experimentation which is most closely associated with Dewey by reputation, and which he himself apparently regards as most important, turns out to carry with it, or even to imply, the assignment of a correspondingly large and significant role to deductive logic. For one controlled experiment takes the place of a multitude of random observations precisely because it sets up a situation to

[28] *Ibid.*, p. 429.
[29] *Ibid.*, p. 429.
[30] *Ibid.*, p. 429.
[31] *Ibid.*, pp. 453–454.
[32] *Ibid.*, pp. 471 ff.
[33] *Ibid.*, p. 474.

which a previously established law or a previously conceived hypothesis is or may be applicable—a set of circumstances in which, *if* the law or hypothesis is applicable, other specified circumstances may be *inferred*. Dewey's distinctive operational interpretation of logic, then, may be regarded with equal appropriateness as a logical interpretation of scientific operations.

It is in this sense (i.e., interpretation of the function of the logical or abstract formulations of science as guides to experimental operations) that Dewey's operational approach has extremely fundamental and far-reaching significance—not in the superficial and often arbitrary sense which he also too often gives it. When, for example, he attempts to identify the relation of cause and effect with that of means and consequences, and all causal propositions with "propositions about policies to be pursued," [34] we are left with a mere analogy, and one not always applicable. Similarly, if "Laws are means of *pre*diction only as far as they operate as means of *pro*duction of a given situation," [35] it would seem that we can predict only those events that we ourselves intend to bring about; and Dewey often appears to mean just this. Yet, in explaining this very assertion, he points out that he does *not* mean that the "bare occurrence" of the event takes place because operations are performed, but rather that certain events will be *observable* if certain actions are taken.[36] The scientific law, then, directs us (by implication) as to what actions to take in order to observe certain things; and it is by this means that "laws, whether of traits determining a kind or of characters in an *if-then* formula, are instrumentalities in determining, through operations they prescribe and direct, the ordered sequences into which gross qualitative events are resolved." [37]

The operations to be directed by scientific laws are, for Dewey, "operations of reasoning (discourse) and of observation." [38] To the extent that the operations are those of "discourse," we have here something similar to Kant's view of the "regulative" function of causality and other abstract concepts. Inclusion of "observation" is essentially an extension of the same view; for it involves "determining existential (spatio-temporal) connection of concrete materials in such a way that the latter constitute a coherent individualized situation." [39] Surely this account of observation is a clear statement of the function of "experience" in Kant's scheme—sense perception so directed by abstract concepts (e.g., causality)

[34] *Ibid.*, pp. 460–461.
[35] *Ibid.*, pp. 454–455.
[36] *Ibid.*, p. 456.
[37] *Ibid.*, p. 456.
[38] *Ibid.*, pp. 455–456.
[39] *Ibid.*, p. 456.

that it becomes organized into coherent, understandable systems (objects or events or bodies of scientific knowledge). The real addition appears in Dewey's insistence that operations must be performed not in the merely verbal sense that this requirement takes on when he speaks of observation itself as an "operation," but in a very concrete sense. Operations must be performed with the conscious purpose of making possible those observations which will be relevant, so that the validity (i.e., empirical relevance) of the law can be established without waiting for accidental observations which may never occur. When additional materials are needed so that scientific hypotheses or laws *can* organize the empirical materials already at hand into a rationally coherent system, we extend our knowledge by providing those materials.

Unquestionably Dewey's emphasis on the role of experiment, especially when he takes it in its relation to the logical element, as he does in discussing causality, and does not permit it (as he sometimes does) to absorb everything else, constitutes an addition of primary importance to the analysis of knowledge. Whether or not he can establish the role of experiment as necessary to all knowledge, he does establish and explain its role as necessary to the progress of science. If the emphasis sometimes becomes overemphasis, at least by that very feature he has made it impossible for the role of experiment to be overlooked or left unaccounted for in any subsequent analysis of knowledge.

Besides accounting for an important element in scientific procedure, Dewey intends his emphasis on experimental observation, especially his view of the function of logical structures in directing that observation, to explain the manner in which abstract "reasoning" is applicable existentially (i.e., the manner in which not "synthetic *a priori* knowledge" but certainly some substitute for it is possible). His method of doing so is obviously much more direct than that of Kant, who is aware of a gap separating even "transcendental" logic from its empirical subject matter, and is compelled to introduce one intermediate mechanism after another in the attempt to close it. In the end, as in the beginning, Kant must still "subsume." Dewey obviously feels that he has overcome such a gap at one stroke, in showing that the abstract formulations of science are by their very nature rules for existential procedure. "Otherwise," he says, "it is assumed that existential propositions are 'implied' by universal propositions."[40]

And yet, however accurate and illuminating this view of the function of abstractions in science may be, is this not again, like

[40] *Ibid.*, p. 428.

Kant's "principles of experience," an intermediate mechanism between logic and existence that almost mediates but does not quite? The major step has been taken, originally by Kant and with experimental involvements by Dewey, in the notion of causality as a logical category—a way of understanding or reasoning about events. But Dewey says that universal propositions are *not* "about events." How then can they guide operations, which *are* events? Does not this function itself seem to involve the very assumption that Dewey intends to avoid, "that existential propositions are 'implied' by universal propositions"? That abstract scientific laws do in fact function as guides to experiment does not solve the problem but rather accentuates its urgency.

This gap between logic and existence, or, as Dewey frequently puts it, between theory and practice, is of course a major problem of philosophy since Kant, rendered increasingly formidable by those developments in logic itself which accentuate its non-existential character. To say that a solution has been made available, its importance inadequately noted even by its author, seems extremely rash; and in any event, sufficient discussion of it will obviously be impossible at this juncture. Some indication to that effect, however, must be included here; for such a solution indeed appears to be provided by Lewis's theory of holophrastic and analytic meaning.

Lewis states the problem—that logical propositions as such are not *about* anything concrete or actual—by pointing out that any analytic statement has "zero intension"; i.e., "it does not impose any restriction or limitation on the actual which could conceivably be absent," since "its truth is determined by meanings alone."[41] This seems, however, to imply that all analytic statements have the *same* intension—i.e., mean the same thing.[42]

The foundation of Lewis's solution is his distinction between "holophrastic meaning" (the intension of a whole expression)[43] and "analytic meaning" (the intensions of the parts into which a complex expression may be subdivided).[44] For the purpose of exhibiting "analytic meaning," any statement may be analyzed into a series of "elementary expressions," the smallest units of expression which have independent meaning, whether words or parts of words.[45] These units retain their own meanings while at the same time combining to produce the meaning of the whole statement,[46] which is "a resultant" of their separate meanings plus

[41] C. I. Lewis, *An Analysis of Knowledge and Valuation* (La Salle, Illinois, Open Court Publishing Company, 1946), p. 57.

[42] *Ibid.*, p. 71.

[43] *Ibid.*, p. 87.

[44] *Ibid.*, p. 85.

[45] *Ibid.*, p. 78.

[46] *Ibid.*, p. 75.

their syntactical relations.[47] Thus the holophrastic meaning (that of the sentence as a whole) and the analytic meaning (that of the constituents) are different, although they are interrelated. This explains why analytic statements may all have zero intension and in that sense "say the same thing" and "say nothing," while in another sense "they say different things, and what they say is significantly factual."[48] It is the constituent expressions that refer to facts; and at the same time, the constituents in their syntactical order are so related as to result in an intension equal to zero.

Lewis notes that his theory explains and affirms the independent character of analytic truth on one hand and empirical truth on the other—the fact that these kinds of truth "can have no effect upon each other"[49] (because analytic truth is a matter of holophrastic meaning while empirical reference is a matter of analytic meaning). This affirmation, however, reinforces a principle that is fairly clear without it. Much more important is the fact that Lewis's theory explains and affirms not only the independence but also the *mutual relevance*, the *interrelation in knowledge*, of the analytic or *a priori* and the synthetic or existential. It is a demonstration that analytic statements, although they analyze meanings only (i.e., we know their truth by "knowing what we mean"[50]), nevertheless *refer* to the actual world insofar as the meanings which they analyze are meanings about the actual world. Although they do not determine experience,[51] they do determine "the manner in which we may consistently think about whatever experience presents."[52] It is a demonstration also that empirical facts, although they cannot prevent us from constructing whatever meanings we choose, play a part in determining whether our meanings are mutually consistent, insofar as empirical facts are included in what we mean. The holophrastic intension, which in analytic statements is zero, is itself "constituted by a significant relation—one which obtains sometimes only—amongst constituents which are themselves specific and are significant in the sense of sometimes applying and sometimes not."[53]

Lewis makes this clear by a simple example. Such expressions as "the day following Monday" and "the day preceding Wednesday," identical in holophrastic meaning, differ in respect to the meaning of their constituents; and this difference is responsible for the fact that the statement "The day following Monday is the day

[47] *Ibid.*, p. 83.
[48] *Ibid.*, p. 87.
[49] *Ibid.*, p. 94.
[50] *Ibid.*, p. 95.
[51] *Ibid.*, p. 35.
[52] *Ibid.*, p. 94.
[53] *Ibid.*, pp. 89–90.

preceding Wednesday" has more point than "Tuesday is Tuesday." And Lewis adds that "this is the *only* kind of point which deductive demonstration, such as the mathematical, has."[54] If so, and it indeed appears to be so, this is an explanation of tremendous importance, showing how deductive demonstration *does* have a point, and giving the clue to such problems as the interpretation and cognitive status of the mathematical and other abstract concepts of science, and indeed of the logical element of consistency and implication in all knowledge.

Clearly, then, "the manner in which we may consistently think about whatever experience presents" is determined both by whatever experience actually does present and by the manner in which we may consistently think, although neither of these factors determines the other. This is precisely the situation presented both by Kant and by Dewey. Lewis, however, explains *how* these two factors can be mutually relevant; why our thinking about experience can and must be consistent; why, with adequate empirical premises, we can make logical inferences about the existent world. He provides a foundation for the recognition that logic is indeed analytic, but not thereby a mere trivial aesthetic exercise; and that the facts of existence are indeed empirical, but that neither they nor actions in regard to them possess a privileged immunity from logical consideration.

BELLA K. MILMED

SHORT HILLS, NEW JERSEY

COMMENTS AND CRITICISM

THE LIBERAL ARTS FUNCTION OF PHILOSOPHY

WHEN, in the course of departmental administrative events, it becomes necessary to meet the demand of the Dean of the College of Arts and Sciences for about a 300-word description of the Liberal Arts Function of Philosophy, then the chairman of that department is compelled to do some solemn soul-searching and careful thinking. In our own department, and in coöperation with its staff, the chairman (who is the present writer) was moved to compose the following item to fufill the forementioned demand. Perhaps its publication will be of some help to others, who may

[54] *Ibid.*, p. 84.

occasionally be placed in a similar predicament, when being evaluated by a college committee.

* * *

Philosophy has traditionally been a foundation stone for the liberal arts education of a college student, in the humanistic area. It should be admitted that Philosophy, as the "Love of Wisdom," cannot, in the ordinary sense, be taught. It is not a skill like typewriting, nor a science like physics. It is closer to the arts, in that the teacher of philosophy can only hope to evoke from the student a deep and enduring desire to pursue, lovingly and religiously, the wisdom that will give his whole life a more profound meaning in relation to himself and to others.

Nevertheless, the academic aspect of philosophy can reasonably expect to instruct the student in the history of *ideas* and *ideals* of great philosophers, so that the wisdom of others may be utilized by the student in finding his own wisdom of life. We may also expect to provide the student with some skill in logical or discursive thinking, as an intellectual tool for seeking wisdom.

Since, in philosophy, we may philosophize about anything, we find that our course work may be devoted to such subjects as philosophy of religion, philosophy of morality (ethics), philosophy of the arts (aesthetics) and of literature, philosophy of the sciences, philosophy of law, philosophy of history, etc. In all such areas, we desire to provide the student with some basic insight into liberal arts subjects and to satisfy his need to relate that insight to an intellectually balanced and emotionally mature way of life.

Underlying all traditional philosophy is metaphysics—the inquiry into the nature of ultimate reality, and into the nature of knowledge, meaning, and truth. Analysis of these fundamental questions, which pervade all of the great philosophical systems, and all of our courses, serves to make the student sensitive to the often naive character of his own views on these all-important problems. His intellectual perspectives are broadened and liberalized, so that he may become consciously and sympathetically aware of honestly differing opinions on these subjects. In the type of world in which we are living, where metaphysical differences make a difference (e.g., the dialectical materialism of communism versus a Christian conception of God and man), it is essential that our students become clearly cognizant of the grounds for these differences. To live adequately in our world, is to live with a compassionate understanding of our ideological differences. The study of Philosophy may hope to engender such understanding.

C. W. Berenda

University of Oklahoma

BOOK REVIEW

Religion, Philosophy and Psychical Research; Selected Essays. C. D. Broad. New York: Harcourt, Brace & Co., 1953. vii, 308 pp. $4.50.

This is a volume of eleven essays written by Professor Broad over a period of some thirty or more years, and published separately elsewhere. Two of them are given postscripts which supplement the originals. The first three deal with the relation of the data yielded by psychical research to accepted bodies of knowledge; the fourth and fifth with the attitude of Henry Sidgwick and Immanuel Kant, respectively, toward psychical research. The sixth and seventh discuss theological questions. The eighth is concerned with the theology of Bishop Butler; and the ninth describes the relations between the sciences, natural, biological, and social, and religion, chiefly Christianity. The tenth consists in an application of certain ethical propositions to the activity of war, and the eleventh points out widespread errors in thought about politics.

All these essays exhibit the shrewdness of mind and the carefulness of thought which the philosophical public naturally expects of Professor Broad. Their style is, of course, very clear, sometimes gay, occasionally witty, often racy, and frequently sardonic. Here I shall comment briefly on the tenth essay; and at greater length on the first and second.

In the tenth essay, *War Thoughts in Peace Time,* written in 1931, Professor Broad deals with two questions: first, ought England to enter into any future war, and ought English citizens to endeavor to secure its participation; and secondly, if it does enter upon a war, ought the objective to be complete victory or negotiated peace; and ought each male citizen to fight. He does not answer these questions; but he does endeavor to lay a basis for answering them by considering, in general terms, the value of war, and the obligation upon citizens in general to work for it and to participate in it once it has occurred. By use of certain doctrines drawn from his ethical theory, he arrives at the conclusion that in general, and on the whole, war is a very bad thing, though not absolutely so; that on the whole every citizen ought to endeavor to prevent it; and that the citizens of any country that is drawn into it should make every effort for negotiated peace rather than complete victory for their side. He holds, further, that once a war has begun every male citizen ought to fight for his nation, that even where there is a compulsory military service law, some ought to refuse to serve on grounds of conscience, that no such

grounds should be legally admissible, and that all such refusals should be visited with the full penalty of law, even death.

Professor Broad's treatment of the value of war and of the moral obligation of citizens to participate in it generates a certain perplexity. If most wars are unjustifiable as Professor Broad argues, it seems very odd that every citizen ought to participate in any once it has begun, and to be compensated with penalty for conscientious refusal to do so. If the war in question is like most, then it would follow that every citizen ought to engage in activity which is morally wrong, and that the rightness of conscientious as well as of all other refusal ought to be requited with evil. If the war is one of those few which are morally justifiable, it seems strange that conscientious objection to its furtherance both ought to occur and to be rewarded with punishment. It is paradoxical to hold that the power of the state ought to be employed to force participation in what is admittedly unjustifiable; it is more so to hold that that power ought to be employed to penalize actions which are morally right. Professor Broad is not unaware of these paradoxes; he insists that applied ethics is full of them. But the reader might hope that they would be dispelled rather than increased in number by philosophic endeavor. In any event, it is salutary that an ethical philosopher of note should direct his attention upon so pervasive and urgent a practical problem as that of war, and more so that one should be able to read Professor Broad's treatment of it at this time—a treatment which, although administered 25 years ago, still provides a carefully thought out basis for further consideration.

I wish now to consider the first and second essays. It will be useful to state their chief points. The comments which I wish to make cannot be understood without such a summary. Besides, a glimpse of the terrain which Professor Broad explores will perhaps serve to make more people travel with him than would otherwise do so; and his fellow-travellers, in these essays, can view a landscape which is very interesting indeed.

In the first essay, "The Relevance of Psychical Research to Philosophy," Professor Broad classifies the findings of psychical research. They are of three kinds: those which report spontaneous and completely uncontrolled phenomena, e.g., stories of haunted houses; those which report phenomena to some degree controlled, e.g., records of critically observed performances of trance mediums; and those which report the results of scientifically executed experiments. The findings embody phenomena of two sorts: those which purport to be cognitions which are conditioned by certain experiences, and those which purport to be cognitions

which are conditioned by no experience whatever. Thus, some reports seem to show that certain persons know x in an unusual way because, subsequent to such unusual knowledge, each, himself, experiences x in a usual fashion; while others seem to show that some persons know x in an unusual way because other persons, earlier, contemporaneously, or later, cognize x in some ordinary way. Unusual cognition of the first kind is autoscopy; the second is telepathy. Besides knowledge which is conditioned by experience of some sort, the findings seem to show that some persons know x even though there is no experience of it, and know it in some way excluded by established belief as to the manner of acquiring knowledge. This paranormal cognition is clairvoyance.

In the second essay, "Normal Cognition, Clairvoyance and Telepathy," Professor Broad deals with the question how reasonable it is to believe that clairvoyance and telepathy of certain sorts occur. He is concerned with clairvoyant knowledge of physical objects or events, contemporaneous with the knowledge; and with telepathic cognition of what others are knowing contemporaneously. Henceforward, unless otherwise noted, these particular species of clairvoyance and telepathy will be referred to by the usually generic terms. The degree of belief which it is reasonable to adopt toward any proposition is determined by its antecedent probability as well as by the evidence immediately relevant to it. The evidence immediately relevant to the proposition that clairvoyance and telepathy occur is certain of the data yielded by psychical research; the antecedent probability of this proposition is its analogy with well established knowledge. Professor Broad, in the second essay, wishes to show that clairvoyance and telepathy need not be regarded as possessed of no antecedent probability because they need not be discordant with the well established facts of normal perception and normal interpersonal knowledge. His procedure is to delineate the features of normal perception and communication as he understands them, and to suggest a corresponding general framework for clairvoyance and telepathy.

In all cases of normal, veridical perception of the physical world, Professor Broad believes, there is direct apprehension of sensa. These are neither physical objects or events, nor parts of them; but each sensum involved in perception of such objects or events is "invested with an aura of acquired meaning in terms of a remote . . . source" (p. 35). Between its source and the sensum, there is a causal process which involves in sight and hearing a process in a physical medium, and in all cases a sense organ, an afferent nerve process, and a brain-event which is an immediate condition for the sensum.

If clairvoyance were analogous to normal perception, it would probably be like sight or hearing. Where veridical, it would consist in the direct apprehension of sensa of a peculiar sort, each endowed with an aura of acquired meaning in terms of its remote source, and resulting from a physical process, the stimulation of a sense organ, an afferent nerve process, and a brain-event—all of kinds presently unknown. I may add, however, that while clairvoyance might be analogous to normal sense perception, there is not the slightest reason, apart from the evidence of psychical research, to suppose that it is.

The only intelligible alternative to this way of understanding clairvoyance is to suppose that it consists in a direct apprehension of physical objects or events rather than of sensa which mean them. So to understand clairvoyance would be to make it totally unlike ordinary sense perception; this unlikeness, Professor Broad does not note, makes it fail of all antecedent probability.

Telepathy consists in one person's cognizing that which another is cognizing, but under unusual conditions. Ordinary interpersonal cognition is understood according to the following scheme. An event in A's mind causes an event in his brain; this event initiates a physical, interpersonal process, which terminates in B's brain, and causes an event in B's mind. The interaction which underlies interpersonal cognition is telepathic if one of three conditions is true: if the interpersonal process is not of a usual sort, e.g., not one involving light waves or sound waves emanating from the body of A and caught by the body of B; if A causes the cognition in B despite the absence of any interpersonal process; and if the cognition in A's mind causes that in B's mind directly without the intervention of brain events in either. That telepathy results from a condition of the first sort is not supported by the facts of experimental investigation. That telepathy rests upon a condition of the third kind cannot be argued; for the direct interaction of minds bears no analogy with established facts. That it rests upon a condition of the second, is antecedently somewhat probable. For all minds are known to affect their bodies, and in some cases many minds, one only. That one mind should affect its own body and a small part of another is not unlike these facts; but, I believe, there is no evidence, apart from that of psychical research, suggesting that it does so.

Telepathic knowledge is not direct apprehension of the experience of others, nor, consequently, the direct apprehension of the things which might be, as in the case of sensa, the objects of their direct apprehension. All that we are entitled to infer, on this score, from the experimental findings of psychical research, is

that telepathic interaction of at least one of the three kinds described does occur, and that in some cases directly apprehended sensa which mean that which others are experiencing result from it.

In other cases the result is discursive cognition, i.e., either knowing a fact, or entertaining an attitude such as belief toward a proposition. Telepathic discursive cognition consists in one person's cognizing a fact or a proposition because some other person cognizes that fact or proposition although the latter does not communicate with the former through any regular channel such as language. An actual occurrence of discursive knowledge of the ordinary sort depends upon the activation of a mental disposition to cognize; and this mental disposition rests upon a structure or process built up through experience and thought to be in the mind or brain. We ordinarily assume that this structure or process supports only the mental disposition of the person whose experience contributes to it, and that it can be a causal factor in other persons' cognition only if its owner makes his thoughts public. Professor Broad suggests that the structure or process which supports the disposition in the telepathic recipient's mind actually to cognize a fact or proposition and which is contributed to by the experience of the sender, might exist in the brain or mind of neither, but in some medium pervasive of both. The structure or process in such a pervasive medium would play a role in telepathic discourse analogous to that of language in ordinary interpersonal cognition.

The upshot of the second essay is this: that the evidence, drawn from psychical research, in favor of the proposition that clairvoyance and telepathy occur need not be discounted since telepathy and clairvoyance could consist in occurrences structurally analogous to ordinary perception and communication. However, there is no evidence that they do exhibit this structure apart from the data of psychical research. It would seem to be a consequence that Professor Broad has not enabled us to assign any degree of antecedent probability to the proposition; and that, at best, he has shown only that it could be analogous to those concerning ordinary perception and communication.

In the first essay, "The Relevance of Psychical Research to Philosophy," Professor Broad expresses a different point of view. He holds that the evidence, drawn from psychical research, endows autoscopy as well as all kinds of clairvoyance and telepathy with a probability approaching certainty, and that this overwhelming probability requires an alteration in several well established beliefs. Among these beliefs are those concerning the nature of

perception and communication, with which, in the second essay, Professor Broad tries to square the occurrence of some kinds of clairvoyance and telepathy. Let us consider the first essay in more detail.

The well established beliefs which Professor Broad impugns concern causality, the relations of mind and body, and the manner in which knowledge occurs. The first is the belief that it is impossible for an event to have effects at a time earlier than its occurrence, or at a later time or remote place with which it is not connected by a continuous spatio-temporal causal process. The second is the view that it is impossible for a mental event to produce any change in the material world other than one in the brain with which it is associated, and that each numerically and qualitatively distinct mental event has as its necessary condition a numerically and qualitatively distinct brain event.[1] The third is the belief that it is impossible to know the physical world except by means of perception understood in the manner earlier described; that it is impossible to know what other persons experience except by deliberate communication, or by inference from observations of them, or from relics they have left behind; that it is impossible to know the future except by lawful inference, explicit or implicit, from present data; and that it is impossible to know the past except by similar but backward-turning inferences, by present memory of it, by testimony of others based on their memory, or by records of past perceptions and memories.

In the absence of the findings of scientific experiments, it would be reasonable to reject the reports of psychical research as spurious. Professor Broad, however, asserts that the occurrence of autoscopy, and of all kinds of telepathy and clairvoyance reported in findings of the first two kinds, is confirmed beyond all reasonable doubt by scientific procedure; experiments which exclude the possibility of normal cognition have yielded data which imply paranormal cognition, since they have occurred immensely more frequently than chance coincidence would lead one to expect. Nothing but ignorance or prejudice can explain the refusal to admit the genuineness of paranormal cognition.

The occurrence of autoscopy and of telepathic knowledge of what another person will cognize in the future requires us to reject a part of the first and of the third belief. In these cases, one has paranormal knowledge of x, provided that in the future he or someone else will know x in an ordinary way; and the paranormal character of his knowledge consists precisely in the fact that his

[1] I have deliberately omitted certain parts of this belief as Professor Broad states it. Cf. pp. 9–10.

cognition is caused, at least in part, by something which has not yet occurred. Moreover, in both cases, the future is known in the absence of inference of the ordinary sort; and forecasts of these kinds, although genuine, are incompatible with the third belief.

Telepathic cognition of that which others experience contemporaneously or have experienced in the past is incompatible with all three beliefs. There is evidence that the experiences in question are not joined to the telepathic act by a spatio-temporal causal process; and the interaction which has been thought to account for all, including interpersonal, knowledge does not occur. Besides, this kind of telepathy is frequently conjoined with autoscopy and precognitive telepathy, which cases are certainly incompatible with all three beliefs, and this frequent union strongly suggests that the *modus operandi* of the various cases is similar.

The occurrence of clairvoyance conflicts with the third belief. Like sensation, it provides knowledge of the world of physical objects and events; but it involves neither sensum, sense organ, nor nerve process inciting a brain-event. There is no evidence, moreover, that clairvoyance involves a physical process emanating from physical occurrence to the body of the clairvoyant knower.

Professor Broad suggests that in view of the conflict between the established results of psychical research and the three beliefs mentioned, the latter should be modified in the following ways. Beliefs about perception must be altered in such a way as to allow the possibility that a person is capable of perceiving any physical object or event in the universe, irrespective of its temporal or spatial location. This in turn requires the rejection of the view that the apparatus of sense organ, nerve process, and brain-event causes private sensa and cognitive acts; and the acceptance of the view that it is a kind of filter which eliminates the perception of most things allowing a little peace and tranquillity in human life, and allowing the best use of what remains. Beliefs about memory must be modified to allow for the possibility that one can remember everything that ever happened to him; and those about forecasting the future and knowing the past in such a way as to make them analogous to perception, according to the new view. It requires, further, a complete alteration of the notion of a temporal direction between cause and effect and of the intermediation of causal processes between temporally and spatially remote causes and effects. Moreover, it requires the acceptance of the view which allows the possibility that a mind can cause physical occurrences in something more than the brain with which it is associated. These suggestions, for some of which Professor Broad admits indebtedness to Bergson, are not elaborated.

There are several questions with which Professor Broad's two essays leave the reader. The first is whether statistical error might not account for the overwhelming probability which, Professor Broad believes, the evidence of psychical research provides for the proposition that autoscopy and all kinds of telepathy and clairvoyance actually occur, i.e., whether chance cannot really explain the outcome of experimental research. I believe that those who now conduct these experiments frequently endeavor carefully to shield their procedures in this respect; but it is a question which must be asked nonetheless. It must, however, be answered by someone other than the present author. Secondly, one must ask whether the established beliefs with some of which Professor Broad, in the second essay, tries to square the conclusions of experimental research, and with all of which, in the first, he declares those conclusions to be discordant, are really so well established. Many do not accept, for example, a theory of perception which involves the direct apprehension of sensa; and some would be hesitant to adopt the beliefs about causality, and those about the interaction of minds and brains. Some might contend that perception of the physical world through sensa is, from the first, no more credible than clairvoyance and telepathy; and some have held that causality is no more than high correlation. Also, many would hold that the mind is such a thing as cannot perform the activities of an agent, a view which seems to underlie Professor Broad's second belief. Thirdly, one must ask whether, in rejecting the view that the brain causes sense-data, Professor Broad is rejecting the view that sensa occur as integral to all perception. The rejection of the view that the brain generates them does not require us to reject the view that sensa occur in perception, but it does strongly suggest it.

But after all such questions have been asked and even after they have been answered, it remains true that Professor Broad's treatment of philosophy and psychical research is extremely impressive. It represents a willingness to reject and to modify at least his own well established beliefs in the direction indicated by what he regards as newly discovered facts—a willingness more unusual than one might wish. Added to the work of those careful thinkers who have considered psychical research seriously, it makes any philosopher, inclined to ignore it, sit up and take notice.

KINGSLEY PRICE

THE JOHNS HOPKINS UNIVERSITY

THE JOURNAL OF PHILOSOPHY

There is no similar journal in the field of scientific philosophy. It is issued fortnightly and permits the quick publication of short contributions, prompt reviews, timely discussions, notes on new books and other journals, and news of philosophic interest. Recent issues contain:

VOLUME LIII

No. 22, 23. October 25, November 8, 1956.

Symposium Papers to be presented at the Fifty-Third Annual Meeting of the American Philosophical Association, Eastern Division, December 27–29, 1956.

No. 24. November 22, 1956.

Santayana and the Poetic Function of Religion. WILLARD E. ARNETT.

Professor Stevenson, Voltaire, and the Case of Admiral Byng. DAVID BRAYBROOKE.

No. 25. December 6, 1956.

The Inadequacy of the Principle of Methodological Individualism. LEON J. GOLDSTEIN.

Report on the Third International Congress of Esthetics. MAX RIESER.

No. 26. December 20, 1956.

The Naturalistic "Reduction" of Ethics to Science. ROLLO HANDY.

Desiring Reason. JOSEPH KATZ.

THE JOURNAL OF PHILOSOPHY

713 Philosophy Hall, Columbia University, New York 27, N. Y.

$5.25 per annum (26 numbers) single numbers, 35 cents: double numbers, 60 cents

ASSOCIATION FOR SYMBOLIC LOGIC

President: W. V. Quine, Harvard University, Cambridge 38, Massachusetts.

Vice-President: Leon Henkin, University of California, Berkeley 4, California.

Secretary-Treasurer: Joshua Barlaz, Rutgers University, New Brunswick, New Jersey.

THE ASSOCIATION FOR SYMBOLIC LOGIC is an international organisation for the promotion of research and of critical studies in the field of formal logic. It is intended to provide a meeting ground for mathematicians and philosophers interested in this field, to encourage cooperation and mutual criticism among various groups and to promote a wider general knowledge and appreciation of current research and recent advances in this field. Membership dues are five dollars per annum payable in the currency of the United States. Members may obtain information concerning the possibility of payment in European currency from *Mrs. C. P. C. Beth-Pastoor, Bernard Zweerskade 23 I, Amsterdam Z, The Netherlands.*

Orders should be addressed to the *Secretary-Treasurer of the Association for Symbolic Logic, Rutgers University, New Brunswick, New Jersey.*

PHILOSOPHY AND PHENOMENOLOGICAL RESEARCH

AN INTERNATIONAL QUARTERLY

Edited by

MARVIN FARBER

in cooperation with A DISTINGUISHED GROUP OF AMERICAN AND FOREIGN SCHOLARS

In addition to providing space for the important philosophical tendencies in all countries, this journal devotes particular attention to the phenomenological movement. A series of translations of Russian articles on philosophy and psychology was inaugurated in 1944; and the proceedings of two Latin-American congresses have been published. There have been numerous critical symposia and original studies in theoretical and practical philosophy. The journal's significance for the various fields of scholarship makes it of interest to a wide reading public.

Published by the
UNIVERSITY OF BUFFALO
Buffalo 14, New York

Subscription Price: Five Dollars Per Year

A descriptive circular listing the main contents of each number since the journal's foundation in September, 1940, may be obtained upon request.